

## On communication complexity of bent functions from Maiorana-McFarland class

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### Abstract

© 2016, Pleiades Publishing, Ltd. In this article we study two party Communication Complexity of Boolean bent functions from Maiorana-McFarland class. In particular, we describe connections between Maiorana-McFarland construction of bent functions and operations on matrix form of Boolean functions and show that bent functions of  $2n$  variables from Maiorana-McFarland class have deterministic communication complexity equal  $n + 1$ . Finally, we show that not all bent functions have high communication complexity lower bound by giving the example of such function.

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### Keywords

Bent functions, communication complexity, log rank technique, Maiorana-McFarland construction